

WHAT IS CLAIMED IS:

1. A bus arbitration method for granting access to a common bus having coupled thereto a plurality of candidates desiring access to such bus, one of such candidates being granted access to such bus in accordance with the a method comprising:

granting default access to the bus to a predetermined one of the candidates;

otherwise, granting access to the bus to one of the candidates in accordance with predetermined priority criteria, such grant being modified when a plurality of such candidates request the bus, such grant to the bus then being such that the one of the candidates requesting the bus having the highest priority in the predetermined priority criteria not be granted the bus if such candidate was the recipient of the previous bus grant and with each one of the requesting plurality of candidates having a predetermined independent "wait count limit" indicating that such requesting one of the plurality of candidates has waited for n assertions of a grant to the bus to other requesting candidates without being granted the address bus, where n is a predetermined integer, and wherein if one of such candidate's "wait count limit" is reached, such candidate receives the bus grant, except that if plural requesting candidates simultaneously reach their respective "wait count limit", then the bus grant will be granted in accordance with the predetermined priority criteria.

2. A bus arbitration method for granting access to a common bus having coupled thereto a plurality of candidates desiring access to such bus, one of such candidates being granted access to such bus in accordance with the a method comprising:

receiving bus requests from the candidates;

producing a "most recent recipient" indication as to which one of the candidates is the most recent recipient of the bus;

producing a "denied access count" indication as to the number of times each candidate has was denied access to the bus during a period when such candidate had been requesting access to the bus;

providing a "wait count limit" for each candidate indicating a predetermined number of times such candidate may be denied access to the bus during said period when such candidate had been requesting access to the bus; and

producing a "wait count limit exceeded" indication when the produced "denied access count" is equal to or exceeds the provided "wait count limit";

granting access to the bus in accordance with predetermined criteria dependent upon the received bus requests; the received "most recent recipient" indications,
5 and the produced "wait count limit exceeded" indications.

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